Appendix B
ENERGY GLOSSARY

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AGGREGATION: A group of consumers banding together to purchase power for a better price.

ALTERNATIVE ENERGY SOURCE: A renewable source of energy such as solar, wind, geothermal. Synthetic fuels/processes such as coal gasification and oil shale are sometimes categorized as alternative energy sources as well (see **Renewable Energy**).

ALTERNATIVE FUEL: "Substantially" non-petroleum energy source as defined by the Energy Policy Act (EPACT) of 1992. Examples include coal-derived liquid fuel, methanol, denatured ethanol, compressed natural gas (CNG), liquefied propane gas (LPG), and electricity.

ALTERNATIVE FUEL VEHICLE (**AFV**): A vehicle that can operate on an energy source other than traditional fuels such as gasoline or diesel fuel (see **Alternative Fuel**).

BIOMASS: Biological matter that can be used as a source of energy, including wood and other plant matter, municipal wastes, and methane produced from landfills, food crops or grain surpluses.

BRITISH THERMAL UNIT (**Btu**): A standard unit for measuring quantities of heat energy. One Btu equals the heat required to raise the temperature of 1 pound of water by 1 degree Fahrenheit at sea level.

CLEAN AIR ACT (**CAA**): A federal law (42 U.S.C. Section 7401 *et seq.*) that establishes national ambient air quality emission standards designed to reduce air pollution, including ground-level ozone, toxic gases, and acid rain. The 1990 **Clean Air Act Amendments** are known by the acronym **CAAA**.

COGENERATION: The sequential production of electricity and thermal energy from a single generating system.

CONSERVATION AND LOAD MANAGEMENT: The process of reducing energy consumption, especially at times when the utility is at peak load. Load management also involves shifting use of demand to off-peak periods when electricity costs are lower and efficiency is higher.

DEGREE DAYS: *Heating* degree days and *cooling* degree days indicate the direction in which the mean daily temperature varies from 65°F. The degree day value is the difference between 65° and the mean daily temperature (the average of daily maximum or minimum temperatures for a given day).

DEM: The R.I. Department of Environmental Management.

DEMAND: The rate of electrical usage over a specified period of time (usually15 or 30 minute segments). Measured in kilowatts (kW).

DEMAND-SIDE MANAGEMENT (**DSM**): The planning, implementation, and monitoring of utility activities designed to reduce customer use or energy to produce desired changes in the utility. Often used as a synonym for **Conservation and Load Management**.

DISTRIBUTION UTILITY: The regulated electric utility that constructs and maintains the distribution wires connecting the transmission grid to the end-user (customer).

DOE: The U.S. Department of Energy.

ELECTRICITY GENERATION: The process of producing electric energy by transforming other forms of energy, e.g., natural gas, petroleum, or nuclear energy; also the amount of electric energy produced, as expressed in watthours.

EMISSIONS: Gases and particulates from combustion discharged into the environment.

END-USE ENERGY CONSUMPTION: The direct consumption of primary fuels such as oil, gas and coal, as well as electricity, in the four end-use sectors (see **End-Use Sectors**).

END-USE SECTORS: The residential, commercial, industrial and transportation sectors of the economy.

ENVIRONMENTAL EXTERNALITIES: Impacts on the environment that are not ordinarily factored into production and pricing decisions, e.g., the heightening of the greenhouse effect due to the selection of a particular source of fuel for a power plant.

EPACT: The National Energy Policy Act of 1992. Wide-ranging legislation touching on virtually every sector of the U.S. energy industry. A key feature revamps federal regulation of power utilities to stimulate competition at the wholesale level; another mandates expanded use of alternative fuel vehicles (AFVs).

FERC: The Federal Energy Regulatory Commission. This body, established by the Federal Power Act, oversees the nation's utility industry. FERC sets the rates, terms, and conditions for wholesale sales of electricity and for all transmission services in interstate commerce.

FUEL CELL: An energy source similar to a battery, using an electrochemical process to convert the chemical energy in a fuel directly into electricity, heat, and water. Fuel cells produce power without conventional combustion or rotating machinery, and can be placed close to energy users without expanding transmission and distribution lines.

GENERATION COMPANY: A regulated or non-regulated entity that operates and maintains existing generating plants. The generation company (or **genco**) may own the generating plants and either be part of a traditional, vertically integrated electric utility or an independent company under a restructured, non-integrated system. Otherwise, it may perform a marketing function on behalf of another party that owns the plants.

GRID: A system of interconnected power lines and generators that is managed so that the generators are dispatched as needed to meet the requirements of customers connected to the grid at various points. Locally the system is managed by Independent System Operator New England (see **ISO-New England**).

HEAT PUMP: A refrigeration machine possessing the capability of reversing the flow so that its function can be either heating or cooling. When used for heating, it extracts heat from a high-temperature source and transfers it to the point where it is needed.

HHS: U.S. Department of Housing and Human Services.

INVESTOR-OWNED UTILITY: A company that provides utility services, is owned by stockholders, and is operated for a profit.

IPP: Independent power producer. This designation applies to non-utility generators that do not cogenerate steam and electricity, and thus are not "qualified facilities" under PURPA from which utilities are required to purchase power (see NUG; PURPA; Qualifying Facility).

ISO-NEW ENGLAND: A not-for-profit private corporation (or “independent system operator”), regulated by the Federal Energy Regulatory Commission (FERC), that is under contract with the New England Power Pool (NEPOOL) to manage the bulk power generation and transmission systems in the New England region and administer the wholesale electricity marketplace (see **New England Power Pool**).

KILOWATT (kW): A unit of electric power equal to 1,000 watts, or to energy consumption at the rate of 1,000 joules per second.

LIHEAP: Low Income Home Energy Assistance Program.

LOAD CENTER: A geographical area where large amounts of power are drawn by end-users.

LUMEN: A measure of light generated by a luminous source. One lumen across one square foot equals one foot-candle.

MSW: Municipal Solid Waste.

NECPA: The National Energy Conservation Policy Act (P.L. 95-619). Title III of this act authorizes the federal grants program to institutions to audit or modify their buildings to conserve energy.

NEPOOL: The New England Power Pool, a voluntary association of electric utilities and non-utility companies participating in the emerging wholesale electricity marketplace in New England. Based in Holyoke, Mass., NEPOOL represents 195 generation companies, transmission companies, publicly-owned entities, suppliers, and end-users. ISO-New England carries on NEPOOL's former task of managing the power grid and dispatching power to distributors or end-users through a competitive bidding system. NEPOOL and ISO-NE are, by design, independent of each other (see **ISO-New England**).

NUG: Non-utility generator. A broad term that covers **qualifying facilities** and **independent power producers** (IPPs) in areas where utilities still own generating facilities (power plants) under the traditional, vertically-integrated system.

OPEN ACCESS: The principle by which a utility that owns or controls transmission lines would allow competitors to provide service along those lines to their customers.

PERFORMANCE-BASED REGULATION: Also known as **incentive regulation**. Any rate-setting mechanism that attempts to link rewards (generally profits) to desired results or targets.

PHOTOVOLTAICS: Solar cells used to convert sunlight into DC electricity through semiconductor electronic processes.

PUC (or **RIPUC**): The R.I. Public Utilities Commission.

RADIATION: The transfer of heat from one body to another by heat waves without heating the air between the bodies.

R-VALUE: The measurement of thermal resistance in a substance.

RENEWABLE ENERGY: A class of energy sources, such as solar, wind, hydro

or biomass, whose supply is continuously or periodically renewed. Also called **renewable resources**, or simply **renewables**.

RENEWABLE PORTFOLIO STANDARD (RPS): A market-oriented policy for accelerating the introduction of renewable resources and technologies into the electric sector. An RPS sets a schedule for establishing a minimum amount of renewable electricity as a fraction of total generation, and requires each supplier that sells electricity to meet the minimum either by producing that amount of renewable electricity in its mix or acquiring credits from generators that exceed the minimum.

RESTRUCTURING: The separation of the various utility functions in the traditional, vertically-integrated utility system into entities that are individually operated and owned.

SYSTEM BENEFIT CHARGE: A 2.3 mils charge per kilowatt-hour on all electric bills for the purpose of funding DSM and renewable energy programs in Rhode Island.

THERM: A unit of gas fuel containing 100,000 Btus.

URA: The Utilities Restructuring Act of 1996, the Rhode Island law that unbundled electricity generation, transmission and distribution.

VERTICAL INTEGRATION: An arrangement whereby the same company owns all the different aspects of making, selling, and delivering a product or service. In a vertically-integrated electric industry, a utility will own the power plants, transmission system, and distribution system.

WAP: Weatherization Assistance Program.

WATT: The electric unit of power or rate of doing work; one ampere flowing under pressure of one volt at unit power factor. Analogous to horsepower or foot-pounds per minute of mechanical power. One watt equals 3.4 Btu/hr.

WIRES CHARGE: A term referring to charges levied on power suppliers or their customers for the use of transmission or distribution wires.